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June 25, 2015

Mr. Kenneth Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Mr. Bruno:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a General Order (G.O.) 112-E inspection of Southern California Gas Company's (SoCalGas) Northern Region-San Joaquin Valley on March 3-7, 2014. SED staff reviewed operation and maintenance records and procedures pursuant to G.O. 112-E, Reference Title 49, Code of Federal Regulations (49 CFR), Parts 191 and 192. Violations of G.O. 112-E and recommendations identified during the inspection are itemized within the "SCG Operation, Maintenance Records and Procedures – Summary of Inspection Findings" (Summary).

Attached is SoCalGas' written response, corrective actions and associated dates.

Please feel free to contact me at (213) 305-8660 if you have any questions or need additional information.

Sincerely,

W. Jeff Koskie

Cc: Ha Nguyen
Adriana Crasnean

Attachments

Attachment 1
Response to Inspection Findings

1. §192.707 Line markers for mains and transmission lines.

(a) "Buried pipelines. Except as provided in paragraph (b) of this section, a line marker must be placed and maintained as close as practical over each buried main and transmission line:

(1) At each crossing of a public road and railroad; and

(2) Wherever necessary to identify the location of the transmission line or main to reduce the possibility of damage or interference.

(b) Exceptions for buried pipelines. Line markers are not required for the following pipelines:

(1) Mains and transmission lines located offshore, or at crossings of or under waterways and other bodies of water.

(2) Mains in Class 3 or Class 4 locations where a damage prevention program is in effect under §192.614.

(3) Transmission lines in Class 3 or 4 locations until March 20, 1996.

(4) Transmission lines in Class 3 or 4 locations where placement of a line marker is impractical.

(c) Pipelines above ground. Line markers must be placed and maintained along each section of a main and transmission line that is located above ground in an area accessible to the public.

(d) Marker warning. The following must be written legibly on a background of sharply contrasting color on each line marker:

(1) The word "Warning," "Caution," or "Danger" followed by the words "Gas (or name of gas transported) Pipeline" all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with ¼ inch (6.4 millimeters) stroke.

(2) The name of the operator and telephone number (including area code) where the operator can be reached at all times."

SCG Gas Standard 223.0075, Section 4.1.8 requires that line markers be installed where pipeline cross perpendicular or diagonal to the street.

SED observed missing or damaged pipeline markers during the field inspection at the following locations:

- Mohawk S/O Rosepace Hwy at both sides of the crossing
- Central Ave. and Hwy 43 at north side of the crossing
- Kimberlina Rd & Hwy 43 at both side of the crossing
- Hwy 43 E/O First at both side of the crossing
- Hwy 43 & Pond Rd. at west side of the crossing

SCG failed to identify and install/replace line markers at the aforementioned locations that are near pipeline segments with missing line markers. SED found SCG in violation of G.O. 112-E, Reference Title 49 CFR Part 192, Section 192.707(a).

Response To Item 1

SoCalGas disagrees with the determination by SED that all identified locations are out of compliance.

Regarding the crossings with a single line marker, 49 CFR Section 192.707(a) states: "A line marker must be placed and maintained as close as practical over each buried main and transmission line…at each crossing of a public road and Railroad."

This code section calls for "a line marker" (singular), and, thus, one line marker, which is what was in place at three of the five identified locations, was compliant.

Regarding the other two identified locations, pipeline markers are continuously removed and found missing because of the general public's actions. They are consistently replaced when issues are identified, as observed at this location. These two locations were remediated by installing at least one line marker at each of the two locations on June 1, 2015.

2. §192.465 External corrosion control: Monitoring.

"(a) Each pipeline that is under cathodic protection must be tested at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of §192.463....
(b) Each cathodic protection rectifier or other impressed current power source must be inspected six times each calendar year, but with intervals not exceeding 2 1/2 months, to insure that it is operating."
(c) Each reverse current switch, each diode, and each interference bond whose failure would jeopardize structure protection must be electrically checked for proper performance six times each calendar year, but with intervals not exceeding 2 1/2 months. Each other interference bond must be checked at least once each calendar year, but with intervals not exceeding 15 months.
(d) Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring.
(e) After the initial evaluation required by § § 192.455(b) and (c) and 192.457(b), each operator must, not less than every 3 years at intervals not exceeding 39 months, reevaluate its unprotected pipelines and cathodically protect them in accordance with this subpart in areas in which active corrosion is found. The operator must determine the areas of active corrosion by electrical survey. However, on distribution lines and where an electrical survey is impractical on transmission lines, areas of active corrosion may be determined by other means that include review and analysis of leak repair and inspection records, corrosion monitoring records, exposed pipe inspection records, and the pipeline environment.

SED found during cathodic protection (CP) records review of "hot spot" protection that SCG did not re-survey the line annually to determine if the anodes installed at the predetermined current discharge points were still effective, and to determine if additional current discharge points had developed. SED found SCG in violation of G.O. 112-E, Reference Title 49 CFR Part 192, Section 192.465(a).

SED observed during CP records review that SCG's rectifiers numbered 25, 26, and 28 were not inspected (missed the inspection cycle) in May 2012. Therefore, SCG failed to inspect the rectifiers

in May 2012 resulting in missing the inspection cycle. SED found SCG in violation of G.O. 112-E, Reference Title 49 CFR Part 192, Section 192.465(b).

SED found during the records review that SCG reevaluation methods to determine the areas of active corrosion were through the study of corrosion and leak history records and leak detection surveys. However, the regulation requires that the operator must determine the areas of active corrosion by electrical survey. Where electrical survey is impractical, subpart I, describes impractical electrical surveys as "those instances or situations where, through no fault or shortcoming of the operator, it is unreasonable or inappropriate to perform the electrical survey due to extreme hard ship, trouble, or expense involved in the survey". Where the electrical survey is impractical, only at those instances the operator can use study of corrosion and leak history records, leak detection surveys, or other means may be used to determine active corrosion areas. SCG did not provide SED with justification for not using electrical surveys and did not provide SED with a program to effectively monitor unprotected coated and bare (ineffectively coated) pipelines. Therefore, SED found SCG in violation of G.O. 112-E, Reference Title 49 CFR Part 192, Section 192.465(e).

Response To Item 2

SoCalGas disagrees with the determination by SED.

Regarding monitoring of "hot spot protection," SoCaGas does not agree that a violation occurred. SoCalGas places "hot spot" anodes in excavations where a leak has been repaired. These are not locations deemed to still have active corrosion, and thus SoCalGas is not creating a cathodic protection area that would require monitoring. The installation of "hot spot" anodes is strictly a decision made by SoCalGas and is not required to be installed or monitored under Section 192.465.

Regarding missing rectifier inspections, on May 7, 2012, only one read point was recorded in the SAP database upon completion of the order. However, an order cannot be completed on the Mobile Data Terminal without entering a read for every point associated with the order. An order was completed, which indicates the technician completed the rectifier inspections in question. The missing read documents in the SAP database would have been the result of some type of electronic data transfer error. On May 21, 2012, a troubleshooting order was generated and sent to the MDT. All reads were taken for the rectifiers 25, 26, and 28.

Regarding failure to provide justification for not using electrical survey as criteria, SoCalGas does not agree that a violation has occurred. Section192.465 states:

> *However, on distribution lines and where an electrical survey is impractical on transmission lines, areas of active corrosion may be determined by other means that include review and analysis of leak repair and inspection records, corrosion monitoring records, exposed pipe inspection records, and the pipeline environment.*

As this section states, on distribution lines, areas of active corrosion may be determined by other means. The reference to electrical survey being impractical applies only to transmission lines.

SoCalGas has adopted policies and procedures to assess and monitor the performance of unprotected coated and bare distribution pipelines. As stated by SED, the evaluation methods established by SoCalGas of active corrosion are through the study of corrosion, leak history and leak detection.

Attachment 2
Response to Inspection Recommendations

1. SCG Gas Standard182.0080, Casing Assembly-Steel Carrier Pipe requires the vent to be designed to prevent entry of water, insects, and other foreign matter, and shall extend at least four feet above the finished grade. Furthermore, the vent shall be away from traffic and any other hazardous location. During the field inspection, SED found that the pipeline casing at Kimberlina Rd & Hwy 43 did not have casing vents. SED recommends that SCG should review the original drawing (as-built plan) to verify if the vent stacks are required and take the necessary steps to ensure compliance with this Gas Standard.

Response to Item 1

SoCalGas disagrees with the determination by SED. SoCalGas does not have, nor does the CFR mandate, an inspection requirement for casings or casing vents. There is no failure of the leakage survey or patrol in this case because there is no requirement to be looking for casing vents. SoCalGas will investigate further the need for two vents at this location with the appropriate entities and remediate the situation as necessary.

2. SCG Gas Standard 186.0075, Electrical Test Station & Bond Assembly, Figures 6 and 7, depicts the SCG's ETS wire installations standard. During the field inspection, SED staff observed that several ETS wire terminations were in non-conformance with SCG Gas Standard 186.0075. SED recommends that SCG follow its Gas Standard and ensure that its employees should maintain the ETS wire terminations in accordance with SCG's Gas Standard 186.0075.

Response to Item 2

SoCalGas acknowledges that these ETS installations differ from those installed during new installations. New installations typically follow Figures 6 & 7. The ETS wires at these locations visited by the SED were installed to be inconspicuous because this area is subject to vandalism and/or theft. SoCalGas is concerned that newly installed ETSs will get vandalized and require continual replacement. If an ETS becomes available that suits the district's needs, it will be considered. During the SED inspection, all of the required CP reads that were taken were not hindered by the ETS wire terminations.

Figures 6 and 7 in SCG Gas Standard 186.0075 are part of Appendix A, which, according to section 4.2.1, "contains suggested types of test stations and installation details for specific applications." Furthermore, section 4.2.2 states that "other ETS configurations may be required and installed to field conditions and construction requirements."

SCG Gas Standard 186.0075 Electrical Test Station & Bond Assembly was reviewed with the System Protection Specialists in February 2015, and any employee who missed the training will be trained again by June 30, 2015.

3. SCG Gas Standard 186.002, Section 4.1.1 states: "*Hot spot cathodic protection shall be applied to existing non-cathodically protected buried or submerged metallic gas piping whenever an external corrosion leak is repaired or external corrosion without leakage requires repair*" and Section 4.1.3. states: "*Cathodic protection shall be applied to buried or submerged metallic gas piping installed before August 1, 1971, and maintained for as long as the piping remains in service on the following:*

   4.1.3.1. All effectively coated piping which operates at a hoop stress of 20% or more of Specified Minimum Yield Strength.

   4.1.3.2. All coated steel services tied over to new main.

   4.1.3.3. Bare or ineffectively coated areas of the existing system where the condition of the piping is determined to be such that:
   4.1.3.3.1. Without cathodic protection or replacement, continuing corrosion could become detrimental to public safety.

   4.1.3.3.2. Where it is more economical to apply cathodic protection than continue to repair corrosion leaks. Piping may be wrapped, rehabilitated or otherwise repaired in conjunction with applying cathodic protection."

   SED recommends that SCG should modify its procedure to define "maintain" and to ensure compliance with G.O. 112-E, Reference Title 49 CFR Part 192, Section 192.465(a).

Response to Item 3

SCG places "hot spot" anodes in excavations where a leak has been repaired. These are not locations deemed to still have active corrosion, and thus SoCalGas is not creating a cathodic protection area that would require monitoring. The installation of "hot spot" anodes is strictly a decision made by SoCalGas and is not required to be installed or monitored under Section 192.465.

4. SCG Gas Standard 186.0135, Section 4.6 Correction of Deficiencies states in part:

   "A cathodically protected piping system or section of pipeline requires maintenance when the level of protection is below the minimum of the criterion established for that system or line. Maintenance and corrective measures must be initiated to restore protection to an area".

   PHMSA FAQ May 19 1989 (Interpretation of 192.465(d)) states:

   " Prompt Remedial Action The definition of "prompt" will vary with the circumstances. Enforcement should be sought only when the investigator is convinced that corrective action was unreasonably delayed. Investigator must state why he determined the delay to be unreasonable. The operator should be required to have procedures (per 192.453) for responding to deficiencies found by the required monitoring. Those procedures should include as a minimum:

A time frame for evaluating data and determining a course of action.
A time frame for any new installation to be operational and Cathodic Protection to be in the adequate range.

These time frames should give consideration to the population density and environmental concerns of the area that could potentially be affected by released product. They may also consider climatic conditions, availability of material, work loads, and an estimate of a relative rate of detrimental corrosion. As a rule of thumb, the OPS would expect that, under normal conditions, the operator should have the evaluations and decisions made and action started within a few months, (proportionally less where required monitoring is less than a year or where deficiencies could result in an immediate hazard to the public), and correction completed by the time of the next scheduled monitoring. If the operator has no procedure for promptly responding and deficiencies exist, it is a violation of 192.465(d). If you can demonstrate that the operator's established time frame for action is inadequate, you may cite him for a violation or proceed with a notice of amendment or both."

SED recommends that SCG Gas Standard 186.0135 should be modified to address the definition of "prompt" action and time frame to complete the correction of the deficiencies because diminished CP effectiveness could lead to increased corrosion, and subsequently increased leakage, thus leading to potential risks associated with public safety and infrastructure integrity.

Response Item 4

GS 186.0135 section 2.4 has been updated and states the following:

2.4. Prompt remedial action shall be taken to correct any variations from Company standards that are discovered during monitoring. See also GS 186.02, *Cathodic Protection – Inspection of Exposed Pipe*, for additional remediation action to be taken beyond that described in this standard.

2.4.1 Prompt is described as the start of the troubleshooting process used within 60 days of the area being found out of tolerance.

5. The following CP read areas were out of tolerance (low CP read):
   - Package number SL-59-A1 west side of the crossing
   - Package number SL528-005 at Conejo Ave. Southeast side of the crossing
   - Package number SL528-001at Conejo Ave. northwest side of the crossing

   SED recommends that SCG should take the appropriate measure to bring the low CP reads to compliance.

Response to Item 5

There is no CP Area called SL59-A1. SoCalGas believes the SED meant SL529-A1. The area point that was read during the audit was found to be out-of-tolerance. The problem was located in an adjacent area (SL529-A2). The problem was corrected on SL529-A2, and both areas SL529-A1and SL529-A2 were read up and within tolerance. SL529-A2 was read on March 13, 2014 and SL529-A1 on March 17, 2014.

On March 6, 2014, during a CPUC Audit, a down (out-of-tolerance) pipe-to-soil reading was taken on an ETS that appeared to be connected to SL528-005. Upon investigation, the ETS in question was still attached to an abandoned pipeline in CP Area SL528-005. Because the reading was taken on the ETS attached to the abandoned pipe, the read was mistakenly identified as the area being down (out-of-tolerance). A new ETS was installed after the audit in CP Area SL528-005 approximately 100 feet from the railroad crossing due to the depth of the main to allow the read to be taken on the pipeline within CP Area SL528-005. CP Area SL528-005 was read up (in tolerance) on February 4, 2014 and was subsequently read up again this year on April 18, 2015.

CP Area SL528-001 was never down. Based upon the annual reads from March 29, 2013; February 20, 2014; and March 23, 2015, this area has been up and within tolerance.

6. SED observed during field inspection of Grangeville Station (256) located at 1115 Grangeville Blvd, in the city of Lemoore the following items:
   - Station fence had faded signs on the station perimeter attached to chain link fence
   - Disconnected bond wire between district pipe and station facility
   - Existing signs were worn and illegible (unable to read)
   - Weeds and brush inside the station may create unnecessary fuel for fire to spark
   - Valve exercise tool was attached to the valve handle Faded
   - Hole in the chain link fence surrounds the Grangeville station

   SED recommends that SCG should take the necessary steps to correct the above deficiencies and to take appropriate measures to deter vandalism to its facilities.

Response to Item 6

On March 4, 2014, crew installed new signs on the fence and pictures were e-mailed to the CPUC. SCG addressed the noted deficiencies in the following manner:
- Station fence had faded signs on the station perimeter attached to chain link fence
  - New signs installed on the station fence.
- Disconnected bond wire between district pipe and station facility
  - Bond wire was rebuilt to repair out of tolerance area. On March 5, 2014, the area was read up and within tolerance.
- Existing signs were worn and illegible (unable to read)
  - Signs have been updated.
- Weeds and brush inside the station may create unnecessary fuel for fire to spark
  - Weeds and brush have been cleared in 2014.
- Valve exercise tool was attached to the valve handle
  - The valve wrench tool was removed.
- Hole in the chain link fence surrounds the Grangeville station
  - Chain link fence was repaired in 2014.

7. SED observed during field inspection of Reg. Station 1154-N that valve number 15 was leaking, pipe support was not fully supporting the above ground piping, and the entry gate

was unlock and partially open. SED recommends that SCG should take the appropriate corrective measure to repair the leak on the valve, to correct piping supports, and to ensure that the facility's gate is locked so to prevent tempering with the Reg. Station's equipment.

Response to Item 7

With regard to Regulator Station 1154-N, SoCalGas repaired the leak by lubricating the valve. The pipe supports were addressed and the gate latch was repaired. These issues were corrected in 2014.